

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
27 January 2005 (27.01.2005)

PCT

(10) International Publication Number  
**WO 2005/007549 A1**

(51) International Patent Classification<sup>7</sup>: B66B 1/34, 7/04

(21) International Application Number:

PCT/US2003/019501

(22) International Filing Date: 20 June 2003 (20.06.2003)

(25) Filing Language: English

(26) Publication Language: English

(71) Applicant (for all designated States except US): OTIS ELEVATOR COMPANY [US/US]; Ten Farm Springs Road, Farmington, CT 06032 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): OH, Jae-Hyuk [KR/US]; 5 Clearbrook Drive, Tolland, CT 06084 (US). PENG, Peie-Yuan [—/US]; 7 Rothe Lane, Ellington, CT 06029 (US). WINSTON, Howard [US/US]; 6 Woods Way, Woodbury, CT 06798 (US). FINN, Alan [US/US]; 19 Cedar Ridge Drive, Hebron, CT 06248 (US).

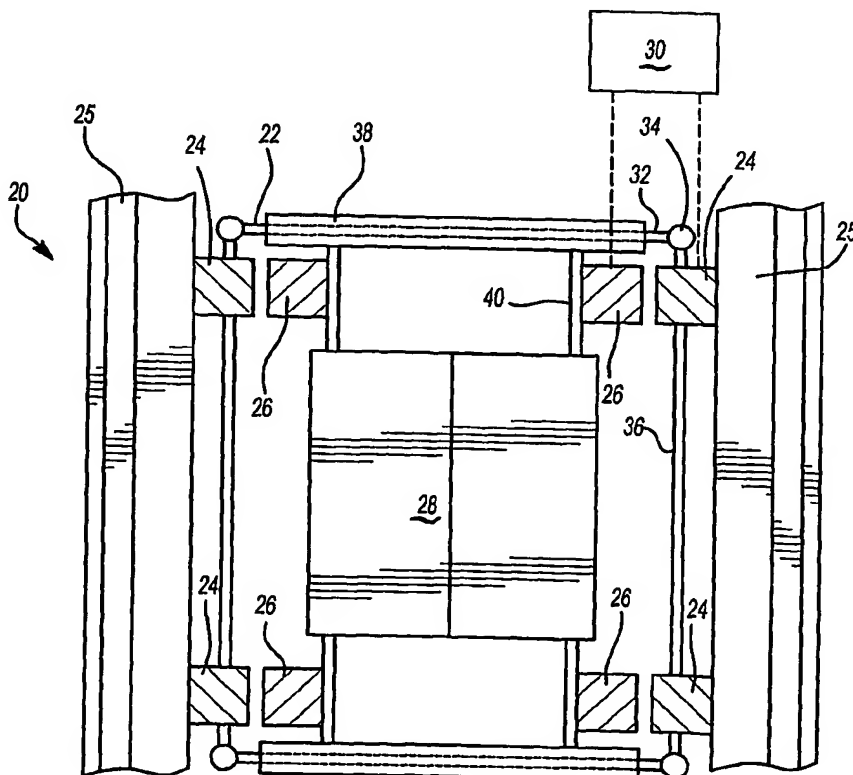
(74) Agent: OLDS, Theodore W.; Carlson, Gaskey & Olds, 400 West Maple, Suite 350, Birmingham, MI 48009 (US).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: ELEVATOR ACTIVE SUSPENSION UTILIZING REPULSIVE MAGNETIC FORCE



(57) Abstract: An elevator includes a car follower (22) associated with each of a pair of guide rails (25), and carrying electromagnets (24) which are spaced from electromagnets (26) on an elevator car (28). The electromagnets on the car and car follower create a repulsive force tending to center the car between the car follower electromagnets associated with the two guide rails. Preferably, the car follower electromagnets are interconnected into a single car follower such that they move together.

WO 2005/007549 A1



**Declaration under Rule 4.17:**

— *of inventorship (Rule 4.17(iv)) for US only*

**Published:**

— *with international search report*

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*